IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Inventor:	Mazzurco, et al.		
Docket No.:	135518	**Confirmation No.:**	8878
Serial No.	09/472,534	**Group Art Unit:**	2666
Filed:	December 27, 1999	**Examiner:**	Melanie Jagannathan
Subject:	Method and Apparatus for Providing Network Protection at Input/Output Interfaces of a Cross-Connect Switch		

REPLY BRIEF

PARTY IN INTEREST: All inventions in the disclosure in the present case are assigned to or assignable to: Alcatel USA Sourcing, L.P.

Mail Stop Appeal Briefs – Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

This Reply Brief under 37 C.F.R. §41.41 is respectfully submitted in response to the Examiner's Answer mailed April 7, 2006. Appellant requests that the appeal be maintained despite the new grounds of rejection in the Examiner's Answer. This Reply Brief addresses each new ground of rejection in the Examiner's Answer as required under 37 C.F.R. §41.39(b)(2).

1.0 Real Party in Interest

The real party in interest is Alcatel USA Sourcing, L.P.

2.0 Related Appeals and Interferences

There are no other prior or pending related appeals, interferences or judicial proceedings of the claims in this case.

3.0 Status of the Claims

Following is the status of all claims in the instant case:

1-15. Cancelled.

16. Rejected – appealed in this brief.
17. Rejected – appealed in this brief.
18. Rejected – appealed in this brief.
19. Rejected – appealed in this brief.
20. Rejected – appealed in this brief.
21. Rejected – appealed in this brief.
22. Rejected – appealed in this brief.
23. Rejected – appealed in this brief.
24. Rejected – appealed in this brief.
25. Rejected – appealed in this brief.
26. Rejected – appealed in this brief.

4.0 Status of Amendments

No amendments have been filed subsequent to the final rejection of the claims 16-26 that are the subject of this appeal.

5.0 Summary of the Claimed Subject Matter

Please find below a concise explanation of the subject matter defined in each of the three standing independent claims including their dependent claims.

5.1 Independent claim 16

Independent claim 16 describes a method for line protection in a transmission switch, comprising:

receiving one or more working channels (See, e.g., working channel 24 in Figure 1, described on page 6, lines 16 through 18; and working channels 24a, 24b in Figure 2, described on page 7, lines 10 through 13; and working channel 24 in Figure 3, described on page 7 at lines 27 through 32) and at least one protection channel (See, e.g., protection channel 26 in Figure 1, described on page 6, lines 16 through 18; and protection channel 26 in Figure 2, described on page 7, lines 10 through 13; and protection channel 26 in Figure 3, described on page 8 at lines 1 through 5) at an input interface (See, e.g., input interface 20 in Figure 1 described on page 6, lines 9 through 11; input interface 20 in Figure 2, described on page 7, lines 16 through 18; and input interface 20 in Figure 3) to the transmission switch (See, e.g. node B in Figure 1, described at page 6, lines 5 through 7; node B in Figure 2; and node B in Figure 3)

performing a selection at the input interface between the working and protection channels in response to a signal quality of the working and protection channel (See, e.g. the description on page 6, lines 26 through 32 with respect to Figure 1; the description on page 7, lines 16 through 25 with respect to Figure 2; and the description on page 7, lines 32 through 34); and

switching the selected ones of the working and protection channels through one or more pre-determined matrix connections in a matrix in the transmission switch, wherein the pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels (See, e.g. the description on page 6, line 32 through page 7, line 3 with respect to Figure 1; the description on page 7, lines 22 through 25 with respect to Figure 2; and the description on page 8, lines 1 through 6 with respect to Figure 3).

In summary, as described on page 3, lines 12 through 28, an input interface receives an inbound working and protection channel. A signal quality of the inbound working and

protection channels is determined and one of the signals is selected based on signal quality. The selected one of the inbound working and protection channels is provided to a switching matrix. Thus, protection switching is performed at the interfaces to the cross-connect switch and not in the switching matrix. Predetermined connections in the switching matrix may be maintained regardless of which one of the inbound working and protection channels are selected to be provided to the switching matrix.

5.2 Independent claim 23

Independent Claim 23 describes a method for line protection in a transmission switch, comprising:

receiving at least one inbound working channel (See, e.g. working channel 24 in Figure 4, described at page 8, lines 8 through 11) and at least one inbound protection channel (See, e.g. protection channel 26 in Figure 4, described at page 8, lines 8 through 11) to the transmission switch (See, e.g. node B in Figure 4);

providing at least one outbound working channel (See, e.g. outbound working channel 25 in Figure 4, described on page 8, lines 11 through 13) and at least one outbound protection channel (See, e.g. outbound protection channel 27 in Figure 4);

switching the inbound working channel and the inbound protection channel through matrix connections in a switching matrix (See, e.g. element 22 in Figure 4) to outbound working channel and outbound protection channel; and

in response to a line failure, routing information on inbound working channel to outbound protection channel and routing information on inbound protection channel to outbound working channel at an input/output interface (See, e.g. description on page 8, lines 14 through 19 with respect to Figure 4(b)), wherein routing of the working and protection channels at the input/output interface prevents information from being provided to the matrix such that the matrix connections are not disrupted (See, e.g. the description on page 8, lines 19 through 22).

In summary, as described on page 8, lines 7 through 22, upon detection of a failure, a ring switch is performed such that selector 30 in interface 20 routes information on inbound protection channel 26 to outbound working channel 25 and routes information on inbound working channel 24 to outbound protection channel 27. The routing performed by selector 30

effects the ring switch without disrupting matrix connections within switching matrix 22 or switching matrix 16.

5.3 Independent claim 25

Independent claim 25 describes an apparatus for providing network protection at a cross-connect switch, comprising:

an input interface (See, e.g., input interface 20 in Figure 1 described on page 6, lines 9 through 11; input interface 20 in Figure 2, described on page 7, lines 16 through 18; and input interface 20 in Figure 3) that receives at least one inbound working channel (See, e.g., working channel 24 in Figure 1, described on page 6, lines 16 through 18; and working channels 24a, 24b in Figure 2, described on page 7, lines 10 through 13; and working channel 24 in Figure 3, described on page 7 at lines 27 through 32) and an inbound protection channel(See, e.g., protection channel 26 in Figure 1, described on page 6, lines 16 through 18; and protection channel 26 in Figure 2, described on page 7, lines 10 through 13; and protection channel 26 in Figure 3, described on page 8 at lines 1 through 5), wherein the input interface includes a selector (See, e.g. selector 30 in Figure 1 described on page 6, lines 28 through 30; selector 30 in Figure 2 described on page 7, lines 16 through 18; and selector 30 in Figure 3, described on page 7, lines 32 through 34) to select between the inbound working channel and the protection channel in response to a signal quality of the working and protection channels(See, e.g. the description on page 6, lines 30 through 32 with respect to Figure 1; the description on page 7, lines 18 through 25 with respect to Figure 2; and the description on page 7, lines 32 through 34); and

a switching matrix (See, e.g. matrix 22 in Figure 1, matrix 22 in Figure 2 and matrix 22 in Figure 3) that switches the selected one of the inbound working and protection channels over a pre-determined matrix connection, wherein the pre-determined matrix connection is not disrupted in response to the selection of the inbound working and protection channel (See, e.g. the description on page 6, line 32 through page 7, line 3 with respect to Figure 1; the description on page 7, lines 22 through 25 with respect to Figure 2; and the description on page 8, lines 1 through 6 with respect to Figure 3).

In summary, as described on page 3, lines 12 through 28, an input interface receives an

inbound working and protection channel. A signal quality of the inbound working and protection channels is determined and one of the signals is selected based on signal quality. The selected one of the inbound working and protection channels is provided to a switching matrix. Thus, protection switching is performed at the interfaces to the cross-connect switch and not in the switching matrix. Predetermined connections in the switching matrix may be maintained regardless of which one of the inbound working and protection channels are selected to be provided to the switching matrix.

6. Grounds of Rejection to be Reviewed on Appeal

Whether Claims 16-22 and 25-26 are anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 5,479,608 to Richardson.

Whether Claims 23-24 are anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 5,469,428 to Tokura et al.

7. Argument

Please find below a separate heading for each ground of rejection and a separate subheading for each of the independent claims.

7.1 Rejection under 35 U.S.C. 102(b) over U.S. Patent No. 5,479,608

The claims 16 through 22 and 25 through 26 are rejected under 35 U.S.C. 102(b) as being anticipated by the U.S. Patent No. 5,479,608 to Richardson (the Richardson reference). Appellant believes that the Richardson reference fails to teach all of the limitations positively recited in claims 16 through 22 and 25 through 26. Therefore, a proper prima facie case of anticipation against the claims 16 through 22 and 25 through 26 has not been made under 35 U.S.C. 102(b).

7.1a Independent Claim 16 and Dependent Claims 17-22

The Richardson reference fails to disclose, *inter alia*, the requirement of claim 16 of, "switching the selected ones of the working and protection channels through one or more pre-determined matrix connections in a matrix in the transmission switch, wherein the pre-

determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels." As stated at page 7, lines 3 through 5, time consuming creation and deletion of matrix connections to accommodate a protection switch is avoided by the present invention. Instead, "protection switching is performed at the interfaces to the cross-connect switch and not in the switching matrix," as stated at page 3, lines 22 through 24. The protection schemes presented by the present invention thus avoid any creation or deletion of matrix connections, and the switching matrix "can maintain its pre-determined matrix connections regardless of which one of working channel 24 and protection channel 26 is selected," as stated on page 6, line 34 through page 7, line 3. "All of the protection schemes discussed above provide for the occurrence of protection switching in the input and output interfaces of a cross-connect switch to avoid disruption of matrix connections in the switching matrix of the cross-connect switch," as stated at page 9, lines 3 through 7.

The Richardson reference teaches away from the present invention by disclosing a switching matrix that is disrupted due to the selection between working and protection channels at an input interface. As seen in Figure 2, and described at column 5, lines 1 through 34, Cross-connect 2A of the Richardson reference includes a three stage Clos matrix including first/third stages 20_0-20_n and centerstages 22_0 through 22_n. As stated at column 5, lines 14 through 18, each of the first/third stages 20_0-20_n of the Clos matrix include a portion of the switching matrix and the appropriate transceiver circuitry to provide member ports MA1 through MA15 and protection port PA. As stated at column 5, lines 53 through 67, the response of a cross-connect to a signal failure event is shown in a series of matrix diagrams of Figures 3a through 3h, and the flow chart of Figures 5a through 5c. As seen in Figure 3a and described column 7, lines 48 through 52, a signal fault SF is occurring in the facility received at member input port MA1I of first stage 20_1 in node A. At column 10, lines 43 through 45, in response to a signal failure at Ma1I, the Richardson reference states that, "If input head port B1I has a valid signal, process 46 [of Figure 5a] is then performed by which IPU 16_3 in node B effects a third stage bridge (3SBR) in first/third stage 20_3." Thus, the third stage 20_3 of Node B is disrupted by the creation of a connection to PB0, as seen in Figure 3b. In addition, the Richardson reference states at column 11, lines 6 through 11 that, "Upon receipt of the 'good' signal at protection input port PAI, in process 38 of Figure 5a, node A performs a first stage switch at first/third stage 20_1, switching

the facility now being received at protection input port PAI to center matrix stage 22A in place of the failed facility previously received at member input port MA1I." This switch of first stage 20_1 can be seen in Figure 3c. Thus, the Richardson reference is clearly illustrating that matrix connections in the first stage of the switching matrix in node 2A are switched and the matrix connections in third stage of node 2B are switched to select between working channels and protection channels.

Furthermore, in the event of subsequent signal failure SF' at member input port MB1I, node A performs a third stage bridge at 20_1, as seen in Figure 3d and in process 50 of Figure 5b and described at column 12, lines 6 through 8. And node B performs a first stage switch at 20_3, as seen in Figure 3e and described at column 12, lines 13 through 22. Thus, Figure 3e illustrates a full duplex failure with matrix connections in both first and third stages of Nodes A and B being switched.

As summarized above, the Figures 3a through 3h and Figures 5a through 5c and the related description in the Richardson reference clearly describes a disruption of the first/third stages 20 in the switching matrix occurs in response to a signal failure. However, the final Office Action, mailed on June 27, 2005, on page 2 argues that the matrix connections are not disrupted since the "signal is bridged from head port B1I to both member input port MB10 and protection output port PBO." However, a matrix connection was created to PBO in third stage matrix that was not there before. And, at the input interface at node A, Figure 3c clearly indicates a switch in the first stage of node A from MA1I to PAI and this switch is described at column 11, lines 6 through 11 above. The Richardson reference clearly states that node A performs a first stage switch of the matrix as illustrated in Fig. 3c, as stated at column 11, lines 20 through 21. As stated at column 11, lines 26 through 32, the signal is transmitted over both protection path P_{BA} and member path 41_{BA} so that monitoring of the facility at member input port MA1I can continue and that reversion or switching by the first stage matrix to the normal state can be effected at the appropriate time. Thus, the pre-determined matrix connections are disrupted in the Richardson reference.

The Examiner's Answer on page 8, last paragraph states that, "Examiner agrees that Richardson discloses a third stage bridge for signal from input head port B1I to reach both member input port MB10 and protection port PB0. However, Examiner interprets center stage in

cross-connect switch as being claimed matrix in a transmission switch." The Examiner's Answer thus admits that a bridge or matrix disruption is occurring in the third stage of the matrix from input head port B1I to reach both member input port MB10 and protection port PB0. The claim specifically states, "wherein the pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels." Since the selection in the Richardson reference is occurring by a bridge in the third stage of the three stage Clos matrix as admitted by the Examiner, then selection is not occurring at an input interface and the pre-determined matrix connections are being disrupted.

In conclusion, since the Richardson reference clearly describes a disruption of the first/third stages in the switching matrix occurs in response to a signal failure, it teaches away from the requirement of claim 16, *inter alia*, of, "switching the selected ones of the working and protection channels through one or more pre-determined matrix connections in a matrix in the transmission switch, wherein the pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels." Since the Richardson reference fails to teach all of the limitations positively recited in independent claim 16, a proper prima facie case of anticipation against claim 16 has not been made under 35 U.S.C. 102(b).

7.1b Independent Claim 25 and Dependent Claim 26

The Richardson reference fails to disclose, *inter alia*, the requirement of claim 25 of, "a switching matrix that switches the selected one of the inbound working and protection channels over a pre-determined matrix connection, wherein the pre-determined matrix connection is not disrupted in response to the selection of the inbound working and protection channel." As stated at page 7, lines 3 through 5, time consuming creation and deletion of matrix connections to accommodate a protection switch is avoided by the present invention. Instead, "protection switching is performed at the interfaces to the cross-connect switch and not in the switching matrix," as stated at page 3, lines 22 through 24. The protection schemes presented by the present invention thus avoid any creation or deletion of matrix connections, and the switching matrix "can maintain its pre-determined matrix connections regardless of which one of working channel 24 and protection channel 26 is selected," as stated on page 6, line 34 through page 7,

line 3. "All of the protection schemes discussed above provide for the occurrence of protection switching in the input and output interfaces of a cross-connect switch to avoid disruption of matrix connections in the switching matrix of the cross-connect switch," as stated at page 9, lines 3 through 7.

The Richardson reference teaches away from the present invention by disclosing a switching matrix that is disrupted due to the selection of the inbound working and protection channels. As seen in Figure 2, and described at column 5, lines 1 through 34, Cross-connect 2A of the Richardson reference includes a three stage Clos matrix including first/third stages 20_0-20_n and centerstages 22_0 through 22_n. As stated at column 5, lines 14 through 18, each of the first/third stages 20_0-20_n of the Clos matrix include a portion of the switching matrix and the appropriate transceiver circuitry to provide member ports MA1 through MA15 and protection port PA. As stated at column 5, lines 53 through 67, the response of a cross-connect to a signal failure event is shown in a series of matrix diagrams of Figures 3a through 3h, and the flow chart of Figures 5a through 5c. As seen in Figure 3a and described column 7, lines 48 through 52, a signal fault SF is occurring in the facility received at member input port MA1I of first stage 20_1 in node A. At column 10, lines 43 through 45, in response to a signal failure at Ma1I, the Richardson reference states that, "If input head port B1I has a valid signal, process 46 [of Figure 5a] is then performed by which IPU 16_3 in node B effects a third stage bridge (3SBR) in first/third stage 20_3." Thus, the third stage 20_3 of Nobe B is disrupted by the creation of a connection to PB0, as seen in Figure 3b. In addition, the Richardson reference states at column 11, lines 6 through 11 that, "Upon receipt of the 'good' signal at protection input port PAI, in process 38 of Figure 5a, node A performs a first stage switch at first/third stage 20_1, switching the facility now being received at protection input port PAI to center matrix stage 22A in place of the failed facility previously received at member input port MA1I." This switch of first stage 20_1 can be seen in Figure 3c. Thus, the Richardson reference is clearly illustrating that matrix connections in the first stage of the switching matrix in node 2A are switched and the matrix connections in third stage of node 2B are switched to select between working channels and protection channels.

Furthermore, in the event of subsequent signal failure SF' at member input port MB1I, node A performs a third stage bridge at 20_1, as seen in Figure 3d and in process 50 of Figure 5b

and described at column 12, lines 6 through 8. And node B performs a first stage switch at 20_3, as seen in Figure 3e and described at column 12, lines 13 through 22. Thus, Figure 3e illustrates a full duplex failure with matrix connections in both first and third stages of Nodes A and B being switched.

The final Office Action, mailed on June 27, 2005, on page 2 argues that the matrix connections are not disrupted since the "signal is bridged from head port B1I to both member input port MB10 and protection output port PBO." However, a matrix connection was created to PBO in third stage matrix that was not there before. And more importantly, at the input interface at node A, Figure 3c clearly indicates a switch in the first stage of node A from MA1I to PAI and this switch is described at column 11, lines 6 through 11 above. The Richardson reference clearly states that node A performs a first stage switch of the matrix as illustrated in Fig. 3c, as stated at column 11, lines 20 through 21. As stated at column 11, lines 26 through 32, the signal is transmitted over both protection path P_{BA} and member path 41_{BA} so that monitoring of the facility at member input port MA1I can continue and that reversion or switching by the first stage matrix to the normal state can be effected at the appropriate time. Thus, the pre-determined matrix connections are disrupted in the Richardson reference.

The Examiner's Answer on page 8, last paragraph states that, "Examiner agrees that Richardson discloses a third stage bridge for signal from input head port B1I to reach both member input port MB10 and protection port PB0. However, Examiner interprets center stage in cross-connect switch as being claimed matrix in a transmission switch." The Examiner's Answer thus admits that a bridge or matrix disruption is occurring in the third stage of the matrix from input head port B1I to reach both member input port MB10 and protection port PB0. The claim specifically states, "wherein the pre-determined matrix connection is not disrupted in response to the selection of the inbound working and protection channel." Since the selection in the Richardson reference is occurring by a bridge in the third stage of the three stage Clos matrix as admitted by the Examiner, then the pre-determined matrix connections are being disrupted.

In conclusion, since the Richardson reference clearly describes a disruption of the first/third stages in the switching matrix occurs in response to a signal failure, it teaches away from the requirement of claim 25, *inter alia*, of, "a switching matrix that switches the selected one of the inbound working and protection channels over a pre-determined matrix connection,

wherein the pre-determined matrix connection is not disrupted in response to the selection of the inbound working and protection channel." Therefore, the Richardson reference fails to teach all of the limitations positively recited in independent claim 25, and a proper prima facie case of anticipation against claim 25 has not been made under 35 U.S.C. 102(b).

7.2 Rejection under 35 U.S.C. 102(b) over U.S. Patent No. 5,469,428

The Examiner's Answer included a new grounds of rejection to claims 23 and 24 under 35 U.S.C. 102(b) as being anticipated by the U.S. Patent No. 5,469,428 to Tokura et al. (the Tokura reference). The Tokura reference fails to teach all of the limitations positively recited in claims 23 and 24. Therefore, a proper prima facie case of anticipation against claims 23 and 24 has not been made under 35 U.S.C. 102(b).

Appellant thanks the Examiner for the indication that claims 23 and 24 are not anticipated by the Richardson reference, as stated on page 10 of the Examiner's Answer. Appellant wants to maintain the appeal and addresses the new grounds of rejection below. Claims 23 and 24 were added by a response filed on March 1, 2004, over two years ago and have not been amended since that time. It is difficult to understand why this new prior art has not been presented in that two year time period.

7.2a Independent Claim 23 and Dependent Claim 24

The Tokura reference fails to disclose, *inter alia*, the requirement of claim 23 of, "in response to a line failure, routing information on inbound working channel to outbound protection channel and routing information on inbound protection channel to outbound working channel at an input/output interface, wherein routing of the working and protection channels at the input/output interface prevents information from being provided to the matrix such that the matrix connections are not disrupted." As stated at page 7, lines 3 through 5, time consuming creation and deletion of matrix connections to accommodate a protection switch is avoided by the present invention. Instead, "protection switching is performed at the interfaces to the cross-connect switch and not in the switching matrix," as stated at page 3, lines 22 through 24. The protection schemes presented by the present invention thus avoid any creation or deletion of matrix connections, and the switching matrix "can maintain its pre-determined matrix connections regardless of which one of working channel 24 and protection channel 26 is

selected," as stated on page 6, line 34 through page 7, line 3. "All of the protection schemes discussed above provide for the occurrence of protection switching in the input and output interfaces of a cross-connect switch to avoid disruption of matrix connections in the switching matrix of the cross-connect switch," as stated at page 9, lines 3 through 7.

For example, with respect to Figures 4A and 4B, the specification describes a bidirectional line switched ring protection scheme on page 8, lines 7 through 22. Upon detection of a failure that requires a ring switch, selector 30 in input interface 20 in Figure 4 routes information on inbound working channel 24 to outbound protection channel 27. Selector 30 in Figure 4 also routes information on inbound protection channel 26 to outbound working channel 25. As stated at page 8, lines 19 through 22, "The routing performed by selector 30 effects the ring switch without disrupting matrix connections within either switching matrix 22 or switching matrix 16." As seen in Figure 4B, due to the routing at the selector 30, no information is provided to the matrix 22 from the inbound working channel or in bound protection channel.

The Tokura reference fails to disclose the requirement of claim 23, *inter alia*, of "in response to a line failure, routing information on inbound working channel to outbound protection channel and routing information on inbound protection channel to outbound working channel at an input/output interface, wherein routing of the working and protection channels at the input/output interface prevents information from being provided to the matrix such that the matrix connections are not disrupted." The Tokura reference, at column 7, lines 12 and 13 with respect to Figure 5, element 52, states, "The loop-back in the unit of a path may be made by using a path switch 52 in the node." The Tokura reference thus fails to disclose routing of the working and protection channels at the input/output interface prevents information from being provided to a matrix such that the matrix connections are not disrupted.

The Examiner's Answer on page 5, end of the first paragraph states, "The claimed wherein routing of the working and protection channels at an input/output interface prevents information from being provided to the matrix such that matrix connections are not disrupted is disclosed by loop-back performed in path switch (Figure 5, element 52) in node and not switched through links to next node (Figure 5, element 14). The Examiner's Answer is thus admitting that there is a loop-back being performed in path switch in Figure 5, element 52. As such, there must not be a routing of the working and protection channels at the input/output interface that prevents

information from being provided to the matrix such that the matrix connections are not disrupted.

In conclusion, the Tokura reference fails to teach all of the limitations positively recited in independent claim 23. Therefore, a proper prima facie case of anticipation against independent claim 23 and dependent claim 24 has not been made under 35 U.S.C. 102(b).

8. Claims Appendix

The claims involved in the appeal are:

16 (Previously Added). A method for line protection in a transmission switch, comprising:

receiving one or more working channels and at least one protection channel at an input interface to the transmission switch;

performing a selection at the input interface between the working and protection channels in response to a signal quality of the working and protection channels; and

switching the selected ones of the working and protection channels through one or more pre-determined matrix connections in a matrix in the transmission switch, wherein the pre-determined matrix connections are not disrupted due to the selection at the input interface between the working and protection channels.

17 (Previously Added). The method of Claim 16, wherein a number n of working channels and one protection channel is received and wherein the step of performing a selection comprises selecting all of the number n of working channels or selecting the one protection channel and n-1 of the working channels and wherein a number n of pre-determined connections are maintained in the matrix without disruption.

18 (Previously Added). The method of claim 17, further comprising the step of

providing a protection switch request to an originator of the n number of working channels and protection channel to switch transmission of one of the number n of working channels to the protection channel.

19 (Previously Added). The method of Claim 18, wherein the network protection is a 1:n linear automatic protection scheme.

20 (Previously Added). The method of Claim 16, wherein one working channel and one protection channel is received and wherein the step of performing a selection comprises selecting between the working channel and the protection channel and wherein one predetermined connection through the matrix is maintained without disruption.

21 (Previously Added). The method of claim 20, wherein a common data signal is received on both the one working channel and the one protection channel.

22 (Previously Added). The method of Claim 21, wherein the network protection is a 1:1 linear automatic protection scheme.

23 (Previously Added). A method for line protection in a transmission switch, comprising:

receiving at least one inbound working channel and at least one inbound protection channel to the transmission switch;

providing at least one outbound working channel and at least one outbound protection channel;

switching the inbound working channel and the inbound protection channel through matrix connections in a switching matrix to outbound working channel and outbound protection channel; and

in response to a line failure, routing information on inbound working channel to outbound protection channel and routing information on inbound protection channel to outbound

working channel at an input/output interface, wherein routing of the working and protection channels at the input/output interface prevents information from being provided to the matrix such that the matrix connections are not disrupted.

24 (Previously Added). The method of Claim 23, wherein the network protection is a bidirectional line switched ring protection scheme implementing a ring switch.

25 (Previously Added). An apparatus for providing network protection at a cross-connect switch, comprising:

an input interface that receives at least one inbound working channel and an inbound protection channel, wherein the input interface includes a selector to select between the inbound working channel and the protection channel in response to a signal quality of the working and protection channels; and

a switching matrix that switches the selected one of the inbound working and protection channels over a pre-determined matrix connection, wherein the pre-determined matrix connection is not disrupted in response to the selection of the inbound working and protection channel.

26 (Previously Added). The apparatus of Claim 25, further comprising:

an output interface that receives the selected one of the inbound working and protection channels from the switching matrix, the outbound interface operable to broadcast the selected one of the inbound working and protection channels onto an outbound working channel and an outbound protection channel.

9. Evidence Appendix

No evidence other than the arguments and facts presented in this brief is provided.

10. Related Proceedings Appendix

No copies provided, because these claims have never been appealed.

If the Examiner has any issues or questions about this Appeal Brief, please feel free to contact Jessica Smith at (972) 477-9109.

Respectfully Submitted,

Alcatel USA

Dated: June 7, 2006

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